Amendments to the Claims

This listing of claims replaces all prior versions, and listings, of claims in the application:

Listing of claims

Claim 1: (previously presented) A transmitter for use in a network carrying a plurality of data bits, said transmitter comprising:

a physical layer;

a first link layer;

means for providing at least a subset of said plurality of data bits;

means for making said first link layer match a second link layer in at least one handheld device within a broadcast coverage area of said transmitter;

means for making said at least said subset of said plurality of data bits available to said first link layer;

means for making said at least said subset of said plurality of data bits available to said first physical layer;

means for generating at said first physical layer a signal comprising said at least said subset of said plurality of data bits; and

means for transmitting said signal to said at least one handheld device within said broadcast coverage area in a format compliant with and receivable by said second link layer.

Claim 2: (original) The transmitter of claim 1 wherein said matching first and second link layers are infrared data association (IrDA) compliant.

Claim 3: (original) The transmitter of claim 1 wherein said means for transmitting said signal includes:

an on-interval;

an off-interval;

said on-interval corresponding to the presence of at least a portion of at least one of said at least said subset of said plurality of data bits;

said off-interval corresponding to the absence of any of said at least said subset of said plurality of data bits; and

said on and said off intervals further arranged such that a communication interface associated with said handheld device may communicate with another handheld device when said off-interval is present at said communication interface.

Claim 4: (original) The transmitter of claim 3 wherein said handheld device is capable of receiving infrared data signals.

Claim 5: (original) The transmitter of claim 4 wherein said communication interface is compliant with an infrared-data-association (IrDA) specification.

Claim 6: (original) The transmitter of claim 5 wherein said first link layer is compliant with an infrared-data-association (IrDA) specification.

Claim 7: (original) The transmitter of claim 2 wherein said signal is an infrared signal.

Claim 8: (original) The transmitter of claim 7 wherein said signal is a diffuse infrared signal.

Claim 9: (original) The transmitter of claim 8 wherein said signal has a wavelength in the range of substantially 850 nanometers to 1250 nanometers.

Claim 10: (original) The transmitter of claim 9 wherein at least a portion of said signal is comprised of an XML element.

Claim 11: (original) The transmitter of claim 9 wherein said signal is generated by modulating an electric light.

Claim 12: (cancelled)

Claim 13: (cancelled)

Claim 14: (cancelled)

Claim 15: (cancelled)

Claim 16: (cancelled)

Claim 17: (cancelled)

Claim 18: (cancelled)

Claim 19: (cancelled)

Claim 20: (cancelled)

Claim 21: (cancelled)

Claim 22: (cancelled)

Claim 23: (cancelled)

Claim 24: (cancelled)

Claim 25: (cancelled)

Claim 26: (cancelled)

Claim 27: (cancelled)

Claim 28: (cancelled)

Claim 29: (previously presented) A method of utilizing executable code in a source device to convey a plurality of bits to at least one handheld device within a broadcast coverage area of a transmitter and each having a communication interface and a first link layer, said method comprising the steps of:

formatting said at least a subset of said plurality of bits into a data signal;

making said data signal available to a second link layer compatible with said first link layer;

receiving said data signal at a second physical layer; and

making said data signal available to the transmitter for conveying to each said communication interface;

whereby said at least a subset of said plurality of bits is conveyed to said at least one handheld device within the broadcast coverage area of the transmitter.

Claim 30: (original) The method of claim 29 wherein said communication interface is infrared-data-association (IrDA) compliant.

Claim 31: (original) The method of claim 30 wherein said data signal is an infrared signal.

Claim 32: (original) The method of claim 31 wherein said data signal is a diffuse infrared signal.

Claim 33: (original) The method of claim 32 wherein said data signal contains an XML element.

Claim 34: (cancelled)

Claim 35: (cancelled)

Claim 36: (cancelled)

Claim 37: (cancelled)

Claim 38: (cancelled)

Claim 39: (cancelled)

Claim 40: (cancelled)

Claim 41: (cancelled)

Claim 42: (cancelled)

Claim 43: (previously presented) A method for conveying at least a subset of a plurality of data bits from a transmitter to at least one handheld device within a broadcast coverage area of the transmitter, said method comprising the steps of:

making a first link layer in the transmitter match a second link layer in the at least one handheld device;

providing the at least the subset of the plurality of data bits;

making the at least the subset of the plurality of data bits available to the first link layer;

receiving the at least the subset of the plurality of data bits at a first physical layer in the transmitter;

generating an infrared signal comprising the at least the subset of the plurality of data bits; and

conveying the infrared signal to each communication interface associated with the at least one handheld device within the broadcast coverage area of the transmitter in a format compliant with and receivable by the second link layer;

whereby at least the subset of the plurality of data bits is conveyed to the at least one handheld device.

Claim 44: (original) The method of claim 43 wherein said communication interface is a bi-directional communication interface.

Claim 45: (original) The method of claim 44 wherein said matching first and second link layers are infrared-data-association (IrDA) compliant.

Claim 46: (original) The method of claim 45 wherein said communication interface is an infrared-data-association (IrDA) compliant communication interface.

Claim 47: (original) The method of claim 46 wherein said infrared signal is a diffuse infrared signal having a wavelength in the range of substantially 850 nanometers to 1250 nanometers.

Claim 48: (previously presented) The method of claim 43 wherein the infrared signal includes:

an on-interval;

an off-interval;

the on-interval corresponding to the presence of at least a portion of one of the at least the subset of the plurality of data bits;

the off-interval corresponding to the absence of the at least the subset of the plurality of data bits; and

the on-interval and the off-interval further arranged such that the communication interface can transmit an IrDA-compliant-signal when the off-interval is present at the communication interface.

Claim 49: (cancelled)

Claim 50: (cancelled)

Claim 51: (cancelled)

Claim 52: (cancelled)

Claim 53: (cancelled)

Claim 54: (cancelled)

Claim 55: (cancelled)

Claim 56: (cancelled)

Claim 57: (cancelled)

Claim 58: (previously presented) The transmitter of claim 1 wherein said signal is a unidirectional infrared transmitted signal.

Claim 59: (previously presented) The transmitter of claim 58 wherein said at least one handheld device is capable of receiving said signal containing a message over a communication medium, said at least one handheld device including:

means for receiving said signal into said at least one handheld device to form a received signal;

means for passing the received signal to a handheld device physical layer;

means for passing the received signal from said handheld device physical layer to said second link layer; and

means for utilizing information contained in received signal to accomplish a task.

Claim 60: (previously presented) The transmitter of claim 59 wherein said receiving means is a bi-directional infrared communication interface.

Claim 61: (previously presented) The transmitter of claim 59 wherein said signal is conveyed in a format compatible with said handheld device physical layer and said second link layer.

Claim 62: (previously presented) The transmitter of claim 59 wherein said handheld device physical layer and said second link layer are infrared-data-association (IrDA) compliant.

Claim 63: (previously presented) The transmitter of claim 59 wherein said signal includes a broadcast XML element containing said information.

Claim 64: (previously presented) The transmitter of claim 63 wherein said signal contains an integrity XML element encapsulating said broadcast XML element.

Claim 65: (previously presented) The transmitter of claim 59 wherein said receiving means is compliant with an infrared-data-association (IrDA) interface specification.

Claim 66: (previously presented) The transmitter of claim 59 wherein said signal comprises an on-interval corresponding to the presence of said signal at said receiving means and an off-interval corresponding to the absence of said transmitted signal at said receiving means, said on-

interval and said off-interval being separated by an interval of time, said on-interval further conveying at least a portion of said signal to said receiving means.

Claim 67: (previously presented) The transmitter of claim 66 wherein said link layer can accommodate wherein said signal contains less than an entire message during said on-interval.

Claim 68: (previously presented) The transmitter of claim 1 wherein said signal includes a first on-interval, a first off-interval occurring immediately after said first on-interval, a second on-interval occurring immediately after said first off-interval and a second off-interval occurring immediately after said second on-interval.

Claim 69: (previously presented) The transmitter of claim 68 wherein said second link layer can accommodate said received signal when a portion of said message is present during said first on-interval and the remainder of said message is present during said second on-interval.

Claim 70: (previously presented) The method of claim 29 further comprising the steps of:

receiving said data signal at each first physical layer communicatively associated with each said communication interface to form a received signal;

passing said received signal from said first physical layer to said first link layer;

extracting information contained in said received signal; and

making said information available to a user of said handheld device.

Claim 71: (previously presented) The method of claim 70 further including a plug-in, said plug-in for performing said extracting step and said making step.

Claim 72: (previously presented) The transmitter of claim 1 wherein said signal is a unidirectional computer-readable data signal for modifying the operation of said at least one handheld device within a broadcast coverage area of the transmitter, said unidirectional computer-readable data signal comprising:

machine-readable information encoded in an infrared-data-association (IrDA) compliant format for processing by said at least one handheld device within a broadcast coverage area of the transmitter; and

wherein processing said machine-readable information modifies the operation of said at least one handheld device within a broadcast coverage area of the transmitter.

Claim 73: (previously presented) The transmitter of claim 72 wherein said information is processed by a plug-in running on said at least one handheld device.

Claim 74: (previously presented) The transmitter of claim 1 wherein said signal is generated by modulating an electric light.

Claim 75: (previously presented) At least one computer node for carrying out the method according to claim 29.

Claim 76: (previously presented) At least one live communications network comprising at least one computer node according to the method of claim 29.

Claim 77: (previously presented) A computer data signal embodied in electromagnetic signals traveling over at least one live communications network carrying information capable of causing at least one computer node in said at least one live communications network to practice the method of claims 29.

Claim 78: (previously presented) At least one computer readable medium having instructions embodied therein for the practice of the method of claim 29.

Claim 79: (previously presented) At least one computer node for carrying out the method according to claim 43.

Claim 80: (previously presented) At least one live communications network comprising at least one computer node according to the method of claim 43.

Claim 81: (previously presented) A computer data signal embodied in electromagnetic signals traveling over at least one live communications network carrying information capable of causing at least one computer node in said at least one live communications network to practice the method of claims 43.

Claim 82: (previously presented) At least one computer readable medium having instructions embodied therein for the practice of the method of claim 43.

Claim 83: (new) A transmitter for use in a network carrying a plurality of data bits, said transmitter comprising:

a diffuse infrared protocol physical layer;

a transmitter infrared-data-association (IrDA)-compliant link layer having electronic communication with said diffuse infrared protocol physical layer;

means for providing at least a subset of the plurality of data bits;

means for making said at least said subset of the plurality of data bits available to said transmitter IrDA-compliant link layer;

means for making said at least said subset of the plurality of data bits available to said diffuse infrared protocol physical layer;

means for generating a signal at said diffuse infrared protocol physical layer comprising said at least said subset of the plurality of data bits; and

means for transmitting said signal to said handheld device in a format compliant with and receivable by a handheld device executing a handheld device IrDA-compliant protocol at physical and link layers.

Claim 84: (new) A method of utilizing executable code in a source device to convey a plurality of bits to a handheld device having a communication interface and a handheld device infrared-data-association (IrDA)-compliant link layer, said method comprising the steps of:

formatting at least a subset of the plurality of bits into a data signal;

making the data signal available to a source device IrDA-compliant link layer;

receiving the data signal at a source device diffuse infrared protocol physical layer from the source device IrDA-compliant link layer; and

making the data signal available to a transmitter associated with the source device for conveying the data signal to the communication interface;

whereby the at least a subset of the plurality of bits is conveyed to the handheld device through the communication interface and the handheld device IRDA-compliant link layer.

Claim 85: (new) A method for enabling communication between a transmitter and a handheld device comprising the steps of:

providing a diffuse infrared protocol physical layer in the transmitter;

providing a transmitter infrared-data-association (IrDA)-compliant link layer in the transmitter;

providing a handheld device IrDA-compliant link layer and a handheld device IrDA-compliant physical layer in the handheld device;

replacing IrDA-compliant layers above the handheld device IrDA-compliant link layer in the handheld device with at least one software module capable of processing unidirectional signals;

providing a data signal to the transmitter IrDA-compliant link layer;

communicating the data signal from the transmitter IrDA-compliant link layer to the diffuse infrared protocol physical layer;

transmitting the data signal from the diffuse infrared protocol physical layer to the handheld device IrDA-compliant physical layer;

communicating the data signal from the handheld device IrDA-compliant physical layer to the handheld device IrDA-compliant link layer; and

communicating the data signal to the at least one software module to be processed as a unidirectional signal.